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## A SUPPORT TRUSS FOR A MESSAGING SIGN

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Your Petitioner, AARON C. POOT, a citizen of the United States and a resident of the State of Indiana, whose post office address is 1234 Brook Run Drive, Apt. 1A, Mishawaka, Indiana 46544, prays that Letters Patent may be granted to him for the invention set forth in the following specification:

### BACKGROUND OF THE INVENTION

#### 1. FIELD OF THE INVENTION

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This invention relates to a support truss for a messaging sign and more particularly to a support truss which extends over a roadway and which is adapted to have Variable Messaging Signs (VMS) or Digital Messaging Signs (DMS) mounted therein which are utilized to advise motorists of traffic conditions, road conditions, Amber alerts, etc.

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#### 2. DESCRIPTION OF THE PRIOR ART

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VMS and DMS signs have varying thicknesses, lengths and heights. Heretofore, the signs, when positioned over a roadway, were positioned at the forward side of a supporting truss. A walkway was normally provided at the face side of the signs with the walkways only being accessible by a bucket truck or a ladder, which presented a traffic hazard and a dangerous work area for the person or persons servicing the signs.

### SUMMARY OF THE INVENTION

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A support truss for messaging signs such as VMS or DMS signs is provided for supporting the sign or signs over a roadway to alert motorists of traffic conditions, road conditions, Amber alerts, etc. The support truss comprises an elongated, elevated box

1 truss which extends over the roadway and which has its opposite ends secured to  
upstanding supports. The box truss is comprised of a plurality of box truss sections  
secured to one another in an end-to-end relationship. At least one of the box truss  
sections is adapted to have a messaging sign mounted therein. All of the box truss  
5 sections, except the box truss sections having the messaging sign or signs mounted  
therein, comprise horizontally spaced-apart first and second upper tubes and  
horizontally spaced-apart first and second lower tubes, first truss members  
interconnecting the first and second upper tubes, second truss members  
interconnecting the first and second lower tube members, third truss members  
10 interconnecting the second upper tube and the second lower tube, and fourth truss  
members interconnecting the first upper tube and the first lower tube. The box truss  
section which supports the messaging signs therein comprises first and second upper  
tubes, first and second lower tubes, first truss members interconnecting the first and  
15 second upper tubes, second truss members interconnecting the first and second lower  
tubes, and third truss members interconnecting the second upper tube and the second  
lower tube. The messaging sign is mounted in the box truss section as described so  
that the sign is positioned between the first upper tube, the first lower tube, the first truss  
members, the second truss members, and the third truss members of the associated  
20 box truss so that oncoming motorists may observe messages on the front or face side  
of the messaging sign. The messaging sign has a majority of its depth positioned within  
the truss section. The messaging sign is selectively horizontally adjustably mounted on  
the box truss section to enable the box truss section to accommodate signs having  
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1 various depths. A walkway extends from one end of the support truss to behind the  
sign or signs to enable workers to conveniently and safely service the messaging sign  
or signs.

5 It is therefore a principal object of the invention to provide a unique truss section  
which is especially designed to accommodate multiple Variable Messaging Signs (VMS)  
and Digital Messaging Signs (DMS) simultaneously.

Still another object of the invention is to provide a truss section of the type  
described which is designed to permit the signs to mount internally in the truss.

10 Still another object of the invention is to provide a truss bracing system which  
simultaneously accommodates multiple sign depths by adjustably sliding the signs with  
respect to the truss section.

Still another object of the invention is to provide a sign truss which provides a  
safe working platform within the sign structure truss.

15 Yet another object of the invention is to provide a truss of the type described  
which allows unobstructed walkway access to the signs within the sign structure truss.

Still another object of the invention is to provide a truss section for  
accommodating messaging signs wherein the face of the signs are unobstructed so that  
20 motorists may observe the messages thereon.

These and other objects will be obvious to those skilled in the art.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a front elevational view of the support truss of this invention;

25 Figure 2 is a rear elevational view of the support truss of this invention;

1           Figure 3 is a partial end elevational view of the support truss of this invention as  
seen from the right side of Figure 1;

          Figure 4 is a partial rear perspective view of the support truss of this invention;

5           Figure 5 is a partial front exploded perspective view of the support truss of this  
invention;

          Figure 6 is a partial vertical sectional view of the support truss of this invention;  
and

          Figure 7 is a partial top view of the support truss of this invention.

#### 10       DETAILED DESCRIPTION OF THE INVENTION

          The numeral 10 refers to conventional Variable Messaging Signs (VMS) or  
Digital Messaging Signs (DMS) which are utilized to advise motorists of traffic  
conditions, road conditions, Amber alerts, etc. The VMS and DMS signs 10 have  
15       varying thicknesses, lengths and heights. Heretofore, the signs, when positioned over a  
roadway, were positioned at the forward side of a truss. A walkway was normally  
provided at the face side of the signs. Normally, the walkways were accessible only by  
a bucket truck or a ladder, which presented a traffic hazard.

20       In the present invention, the sign(s) 10 are positioned over a roadway by means  
of a box truss 12 which is supported at its opposite ends by suitable supports 14. Truss  
12 is normally comprised of a plurality of truss sections 16 connected together in an  
end-to-end manner. The truss section, in which is positioned the sign 10, will be  
referred to generally by the reference numeral 18. In some cases, more than one truss  
25       section 18 will be utilized.

1 For purposes of description, each of the truss sections 16 will be described as  
including a pair of horizontally spaced upper tubes 20 and 22 which have truss  
members 24 secured thereto and extending therebetween. Truss section 16 also  
includes horizontally spaced lower tubes 26 and 28 which have truss members 30  
5 secured thereto and extending therebetween. Truss members 32 are secured to and  
extend between tubes 20 and 26 while truss members 34 are secured to and extend  
between tubes 22 and 28. Walkway 36 is positioned upon truss members 30 within  
truss sections 16. Safety rails 38 and 40 are preferably positioned on opposite sides of  
10 walkway 36 within the truss sections 16 for safety purposes. The ends of tubes 20, 22,  
26 and 28 which abut an adjacent truss section are provided with connector flanges 42  
to enable the truss sections to be connected together by bolts or the like. For aesthetic  
purposes, the tubes 20 and 22, on the end truss sections 16, extend upwardly and  
outwardly from the supports 14.

15 Truss section 18 includes upper tubes 20A, 22A and lower tubes 26A, 28A.  
Truss members 24A are secured to and extend between tubes 20A and 22A. Truss  
members 30A are secured to and extend between tubes 26A and 28A. Truss members  
34A are secured to and extend between tubes 22A and 28A. A plurality of spaced-apart  
20 I-beams 44 are secured to and extend between tubes 20A and 22A in a transverse  
relationship thereto. A plurality of spaced-apart I-beams 46 are secured to and extend  
between tubes 26A and 28A in a transverse relationship thereto. The lower flanges 48  
of each of the I-beams 44 are provided with a plurality of spaced-apart bolt openings 50  
25 formed therein. The upper flange of each of the I-beams 46 is also provided with

1 spaced-apart bolt openings formed therein. An I-beam 52, having a connector plate 54  
at its upper and lower ends, is selectively secured to I-beams 44 and each I-beam 46 by  
means of bolts extending through connector plate 54, through bolt openings 50 in flange  
48 of the I-beam 44 and by means of bolts extending through the connector plate 54 on  
5 the lower end of the I-beam 46 and through the bolt openings in the upper flange of the  
I-beam 46.

A pair of vertically spaced-apart and horizontally extending Z-channels or braces  
56 and 58 are secured to the back side of the sign 10 and are secured to the I-beams  
10 52. The I-beams 52 are horizontally adjustably secured to the I-beams 44 and 46 to  
compensate for different thicknesses of the sign 10 so that the front face of the sign  
protrudes slightly outwardly of the tubes 20A and 26A. There are no truss members  
corresponding to truss members 32 which extend between the tubes 20A and 26A so  
that the face of the sign is unobstructed. Once the sign 10 is properly positioned, the  
15 walkway 60 is placed on and secured to the truss members 30A. Safety guard rail 62 is  
then installed.

Thus, the sign 10 is positioned substantially within the truss 12 and is completely  
accessible to a worker who is safely within the truss. The sign 10 is accessible without  
20 a bucket truck. Since the worker who may service the sign is within the truss as  
opposed to being positioned on a walkway in front of the sign in the prior art devices,  
the worker is much safer. Further, the support truss of this invention makes it more  
convenient.

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Thus, it can be seen that the invention accomplishes at least all of its stated objectives.

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